

RESEARCH STATEMENT

My laboratory focuses on prevention and treatment strategies for cardiovascular disease, with specific interests in obesity, hypertension, and aging. My objective in becoming an ISL affiliate is to collaborate with current ISL faculty, leverage ISL resources to advance the mission of the ISL and FSU, and increase the exposure of my laboratory to foster additional internal and external collaboration.

My graduate research training included assessing nervous system regulation of blood pressure. More specifically, I studied how alterations in body fluid and electrolytes (e.g., high dietary salt) influence autonomic cardiovascular function in young and older adults. As a postdoctoral fellow, I led projects examining how pain medications affect autonomic cardiovascular function in humans during progressive central hypovolemia to inform prehospital emergency care guidelines for pain management in hemorrhaging individuals.

I secured numerous awards during my doctoral (e.g., University of Delaware Research Fellowship & American Heart Association Predoctoral Fellowship) and postdoctoral training (e.g., American Physiological Society Postdoctoral Fellowship & NIH NRSA F32HL154559). I also studied human thermoregulation, including the effects of heatwaves on cardiac function in older adults, during my postdoctoral training and secured a Research Supplement to Promote Diversity in Health-Related Research to my mentor Dr. Crandall's NIH R01GM068865. Lastly, I am a co-investigator on a Department of Defense - US Army grant (PI: Crandall) evaluating the cardiovascular responses to sublingual sufentanil based on my experience studying prehospital analgesics. These awards and track record of high research productivity (e.g., 35 published articles, 14 as the first author) demonstrate my capability to lead and effectively manage multiple projects simultaneously, many of which have included studying adults over 55 years old.

More recently, I secured a Mentored Career Development Award to Promote Faculty Diversity in Biomedical Research (NIH K01HL160772) to examine whether inspiratory muscle strength training lowers blood pressure, improves respiratory function, and reduces exertional dyspnea in adults with obesity. This novel intervention has high adherence because it requires just five minutes per day to perform 30 resisted inhalations. Along the lines of studying factors to improve health in clinical populations, I plan to examine strategies with the potential to prevent, manage, or treat age-related diseases.

Importantly, this ISL affiliation will also help to solidify my independence as a clinical investigator after highly productive graduate and postdoctoral training. One specific example is that I will apply for an ISL planning grant soon to facilitate pilot data collection for large federal (e.g., NIH) and/or foundation (American Heart Association) funding. In summary, collaborating with the ISL would be largely beneficial for my laboratory and will likewise foster additional cardiovascular and exercise physiology-based assessments in ongoing and future studies from other ISL faculty.